

RUGGEDIZED MPM-1000 IP MODEM



Connect, Collaborate, Communicate – Anytime, Anywhere



L-3 Linkabit continues to meet the demand for Network Centric Satellite IP communications by providing the most powerful and advanced MPM system to date. The Ruggedized MPM-1000 (RMPM) modem hosts the Network Centric Waveform (NCW), the standard wide-band SATCOM waveform for both tactical military and commercial operations.

The RMPM-1000 NCW modem provides a fully automated network which requires no operator intervention to maintain connectivity, even during changing data link conditions. It enables full use of the advanced capabilities of the Wideband Global SATCOM (WGS) multi-beam, multi-band satellite.



The RMPM-1000 meets the networking needs of mobile, dispersed users such as: military, first responder, Non-Government Organization (NGO) or business enterprise personnel

KEY BENEFITS

Highly Dependable Mobile Communications

- Wide range of data rates, modulation schemes and FEC code rates
- Aggregate data throughput – 24.5 Mbps Tx/49 Mbps Rx
- Multiple independent channels – 2 Tx/4 Rx – provides maximum flexibility and throughput
- Low-latency/jitter Voice-over-IP (VoIP)
- Fine resolution, automated link power and data-rate control maintains connectivity in rapidly changing environments and seamlessly accommodates different terminal types and sizes
- Operates over any commercial or military transponded satellite (C-, X-, Ku- or Ka-band)



RUGGEDIZED MPM-1000 IP MODEM



SPECIFICATIONS

MF-TDMA NETWORK CENTRIC WAVEFORM	
Data rate	32 Kbps to 13 Mbps (per channel) 26 Mbps Tx/52 Mbps Rx (aggregate)
FEC coding	Turbo SCCC and LDPC
FEC block sizes	Turbo: 1280 bits LDPC: 640, 1280, 2560 and 5120 bits
Modulation formats	BPSK: Rate $\frac{1}{2}$ (Turbo & LDPC) OQPSK: Rate $\frac{1}{2}$, $\frac{3}{4}$ and $\frac{5}{8}$ (Turbo) Rate $\frac{1}{2}$, $\frac{3}{4}$, $\frac{5}{8}$, and $\frac{7}{8}$ (LDPC) 8 PSK: Rate $\frac{3}{4}$ (Turbo and LDPC)
Direct sequence spreading gain	0 to 12 dB (spread factors 1, 2, 4, 6, 8, 12, 16; up to 8.192 Mcps)
Number of independent carriers (MF-TDMA operation)	2 Transmit; 4 Receive Rapidly tunable over 1.2 GHz
Transmission security	AES-256 CBC TRANSEC (user data and control) FIPS 140-2 Level 2 certified
Control	SNMP V3/L-3 Linkabit HCI
ENVIRONMENTAL	
Conduction cooled and environmentally sealed	
Operating temperature	-6 °C to +50 °C
Storage temperature	-40 °C to +71 °C
Vibration/shock	MIL-STD-810
EMI	MIL-STD-461
MECHANICAL/ELECTRICAL	
Size	1U 19 in. rack-mountable chassis 18.5 in. L x 19 in. W x 1.75 in. H
Weight	19 lb. (excluding mounting hardware)
Input power	90 to 264 VAC, 47 to 63 Hz
Power consumption	< 85 W
Frequency reference	Internal or external (5 or 10 MHz)
Intermediate frequency (with 10 MHz reference)	Tx (950 to 2150 MHz, threaded TNC) Rx (950 to 2150 MHz, threaded TNC)
BASEBAND INTERFACES	
Monitor/Control	10/100/1000 Ethernet (NCW and FDMA control) RS-485 (FDMA control)
NCW data port	10/100/1000 Ethernet
FDMA data port	MIL-STD-188-114/RS-422/RS-423
MIL-STD-188-165A (FDMA) COMPLIANT	
Type I	BPSK: 64 to 6000 kbps QPSK/OQPSK: 64 to 8472 kbps

FEATURES

Enables NCW Capabilities

- Supports full-mesh, hub-spoke and hybrid topologies
- Hub-assist mode maintains communications when conditions prevent peer-to-peer links
- Dynamic multicast: bandwidth efficient handling of multicast and broadcast packets

Excellent Support for On-The-Move (OTM)

- Rapid acquisition/reacquisition of network connection after blockage
- Supports Doppler, Doppler-rate and Doppler acceleration requirements for high-speed OTM performance
- Link-layer assured delivery (ARQ)

Operational Flexibility

- Stores preset mission configurations for simplified field operations and rapid start-up
- Any RMPM can take over as hub/network controller – no special hardware needed
- RMPM stacking capability provides increased throughput for a hub or a high-traffic node
- Implements Network Centric Waveform (NCW) MIL-STD-188-EEE and NATO STANAG 4707

WGS-Compliant – Leverages Capabilities of Advanced Wideband Satellites

- 1.2 GHz agile tuned front-end allows back-to-back bursts scheduled across wideband transponders/beams
- Multibeam operation with cross-banded allocations – uplink and downlink can be in different bands and beams
- Multibeam fan-in/fan-out capabilities – supports multicast and broadcast information streams

Efficient Use of Satellite Resources

- Floating carriers – no need to fix carrier frequency or pre-plan bandwidth allocation
- Automatic handover of control keeps network running under adverse conditions
- Simultaneous support for spread and non-spread users

L-3 Linkabit

9890 Towne Centre Drive

San Diego, CA 92121

Tel: 858.552.9555

Fax: 858.552.9668

Product Service Help Desk: 800.331.9401

Email: LinkabitProducts@L-3com.com

www.L-3com.com/Linkabit

Cleared by DoD/OSR for public release under 14-S-1040 on March 24, 2014. Data, including specifications, contained within this document are summary in nature and subject to change at any time without notice at L-3 Communications' discretion. Call for latest revision. All brand names and product names referenced are trademarks, registered trademarks or trade names of their respective holders.